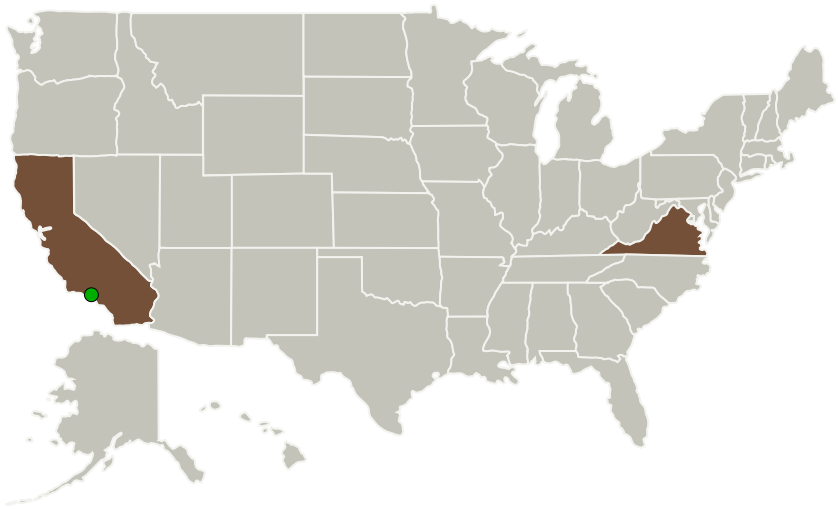
PolyStrata Greenhouse GasRadiometer for Small Satellite Applications, Phase I

Completed Technology Project (2015 - 2015)

Project Introduction

The goal of the Phase I program is to demonstrate the potential for our approach and mitigate program risks for future development efforts. To achieve this goal, we will evaluate system level trade-offs, then design and simulate the key components. The system trade study followed by requirement definition will evaluate radiometry architectures and various PolyStrata implementations. Once a temperature detection level is decided upon, PolyStrata options will be evaluated on size, weight and power. Critical components will be designed including full wave EM modeling. Following the design, a filter section of the multiplexer and the LNA module will be fabricated and tested. The filter will specifically be tested for design and process repeatability whereas the module will evaluate LNA integration and mechanical module design features.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Nuvotronics, Inc	Lead Organization	Industry	Radford, Virginia
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

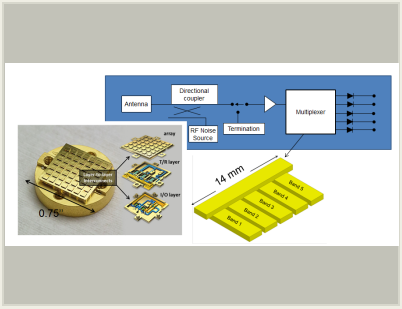


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Table of Contents

PolyStrata Greenhouse GasRadiometer for Small Satellite Applications, Phase I

Completed Technology Project (2015 - 2015)

Primary U.S. Work Locations	
California	Virginia

Project Transitions

June 2015: Project Start

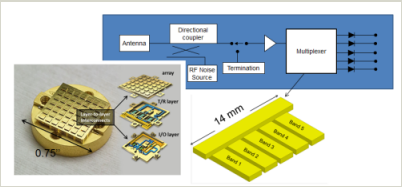
December 2015: Closed out

Closeout Summary: PolyStrata greenhouse gas radiometer for small satellite a pplications, Phase I Project Image

Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/139228)*

Images



Briefing Chart Image
PolyStrata greenhouse gas radiometer for small satellite applications, Phase I
(https://techport.nasa.gov/image/134656)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Nuvotronics, Inc

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Scott A Meller

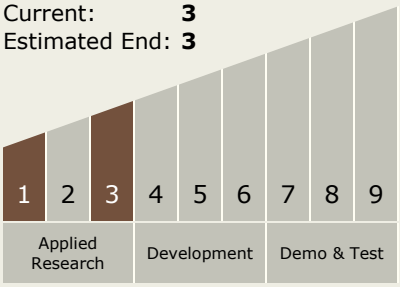
Co-Investigator:
Jennifer Arroyo

PolyStrata Greenhouse GasRadiometer for Small Satellite Applications, Phase I

Completed Technology Project (2015 - 2015)

Technology Maturity (TRL)

Start: **1**
Current: **3**
Estimated End: **3**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System